24039

National Library of Canada / Bibliothèque nationale du Canada

CANADIAN THESES ON MICROFICHE / THÈSES CANADIENNES SUR MICROFICHE

NAME OF AUTHOR/NOM DE L'AUTEUR LORRAINE GREEN

TITLE OF THESIS/TITRE DE LA THÈSE CONSUMER CONCERNS AND NEEDS FOR INFORMATION IN FOODS AND NUTRITION

UNIVERSITY/UNIVERSITÉ UNIVERSITY OF ALBERTA

DEGREE FOR WHICH THESIS WAS PRESENTED/ GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE M.Sc. (H.E)

YEAR THIS DEGREE CONFERRED/ANNÉE D'OBTENTION DE CE GRADE 1975

NAME OF SUPERVISOR/NOM DU DIRECTEUR DE THÈSE DR. M.E. STILES

Permission is hereby granted to the NATIONAL LIBRARY OF CANADA to microfilm this thesis and to lend or sell copies of the film.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

L'autorisation est, par la présente, accordée à la BIBLIOTHÈQUE NATIONALE DU CANADA de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans l'autorisation écrite de l'auteur.

DATED/DATÉ May 2, 1975 SIGNED/SIGNÉ Lorraine Green

PERMANENT ADDRESS/RÉSIDENCE FIXE #404 132 POWER ST.
PENTICTON, BRITISH COLUMBIA

NL-91 (3-74)

THE UNIVERSITY OF ALBERTA

CONSUMER CONCERNS AND NEEDS FOR INFORMATION IN FOODS AND NUTRITION

by

© Lorraine Eva Green

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE DEGREE

OF MASTER OF SCIENCE

SCHOOL OF HOUSEHOLD ECONOMICS

EDMONTON, ALBERTA

SPRING, 1975

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Consumer Concerns and Needs for Information in Foods and Nutrition, submitted by Lorraine Eva Green in partial fulfilment of the requirements for the degree of Master of Science.

Michael K. Stiles
.....
Supervisor

Doris R Badir
.....

Ruth Kenney
.....

Ann L. Harvey
.....

Bette Powers
.....

Date: April 28, 1975

ABSTRACT

This study of consumer concerns about foods and nutrition was intended to identify the concerns, rather than to evaluate the importance of the concerns to the population. This constitutes the first step in a study of consumer attitudes in Alberta. It is intended to serve not only as the basis of an evaluative study for concerns about foods and nutrition, but also as a model for establishing concerns for other consumer goods and services. The study included a limited survey of consumers, designed to obtain expressions of concerns from a broad range of consumers; and a study of foods and nutrition professionals involved in consumer information and education services in Edmonton.

The study consisted of two focused interviews in which respondents were first required to volunteer concerns about foods and nutrition, and were subsequently required to consider selected concerns for their meaning and relative importance. The study identified 10 factors of concern, and in addition, food regulations were identified as a concern, when introduced as a topic of researcher interest. Food costs and nutritive value were identified as the factors that probably represent the greatest concern to consumers. This was confirmed by the professional persons survey, which was more quantitative in nature. The importance of other factors requires evaluation in a

quantitative study before consumer information and education programs are established.

The study revealed that differences in expression of concerns might be expected between respondents of different income and education levels. This is of particular importance for the planning of an evaluative study. The different stages of the consumer study, representing different approaches for the expression of concerns, resulted in different emphases and expressions of concern. The approach used in an evaluative study, therefore, would require careful control. The different frames of reference to foods (i.e. at the time of purchasing or in the home) also appeared to influence consumer concerns and opinions about foods. The meaning of the concerns to the respondents is recorded in the study, and represents another important area for control in an evaluative study.

Acknowledgements

The writer wishes to thank her thesis advisor, Dr. Michael Stiles, for encouragement, guidance, and help in the planning and writing of this thesis. Thank you is also extended to Miss Heather Martin, for her helpful suggestions in preparation and revision of the survey questionnaires, and for her continued support in conducting the interviewing.

Deserving of a special thank you is the writer's husband, who during completion of the thesis, developed his own consumer concerns about food and nutrition, primarily due to lack of same.

TABLE OF CONTENTS

CHAPTER		PAGE
I	INTRODUCTION	1
II	REVIEW OF LITERATURE PERTINENT TO CONSUMER CONCERNS IN FOODS AND NUTRITION	3
	1. Development of the Consumer Movement	3
	2. Consumer Concerns in Foods and Nutrition	7
	(a) Consumer concerns portrayed by consumer advocates	7
	(b) Food industry viewpoint of consumer concerns in foods and nutrition	7
	(c) Consumer concerns as viewed by professional persons in foods and nutrition	11
	METHODS	14
	Introduction	14
	2. Questionnaire Development	15
	A. The Consumer Survey	15
	B. The Foods and Nutrition Professional Survey	17
	3. Pretesting	17
	4. Sampling	18
	5. Interviewing	18
IV	DEMOGRAPHIC DESCRIPTION OF THE SURVEY SAMPLES	21
	1. Consumer Sample	21
	2. Professional Respondents and Agencies	27
V	CONSUMER CONCERNS ABOUT FOODS AND FOOD MARKETING	33
	1. Introduction	33

2. Methods 33

(a) Questionnaire 33

(b) Sampling 35

(c) Analysis 36

3. Results 36

(a) Volunteered concerns (Stage 1 of Questionnaire) 36

(b) Concerns for foods with different degrees of processing (Stage 2 of Questionnaire) 40

(c) Respondents' reactions to a specified list of concerns (Stage 3 of Questionnaire) 46

Reactions to Concerns 47

Ranking of Concerns 52

Solutions to Problems 54

4. Discussion 56

(a) Range of Concerns Expressed 56

(b) Emphasis on Concerns 58

(c) Meaning of Concerns to Consumers 60

VI SURVEY OF PROFESSIONAL PERSONS INVOLVED IN FOODS AND NUTRITION EDUCATION AND INFORMATION IN EDMONTON 62

1. Introduction 62

2. Methods 62

(a) Questionnaire 62

(b) Description of Sample 63

(c) Interviewing 63

3. Results 63

(a) Programs offered by agencies 63

(b) Perceptions of Consumer Needs 65

(c) Methods of Communication 72

(d) Groups of Consumers Requesting information 74

(e) Changes Necessary to Improve Effectiveness of Services 74

4. Discussion 75

(a) Consumer Concerns and Needs for Information 75

(b) Groups of Consumers Requesting Information 79

VII CONCLUSIONS AND IMPLICATIONS FOR INFORMATION AND EDUCATION IN FOODS AND NUTRITION 81

1. Implications of the study 81

2. Limitations of the study 84

REFERENCES 85

APPENDIX A Survey of Consumer Concerns Regarding Foods and Nutrition 89

APPENDIX B Survey of Consumer Education in Foods and Nutrition 95

LIST OF TABLES

		PAGE
1.	Professional agencies and number of respondents interviewed for the study	19
2.	Distribution of respondents by family income, education, and occupation	22
3.	Criteria for assigning respondents into socioeconomic groups	23
4.	Distribution of respondents by age group	23
5.	characteristics of respondents that could influence awareness of concerns	25
6.	Information seeking and consumer-oriented activity of respondents	26
7.	Distribution of responses to questions regarding regulatory controls in foods	28
8.	Distribution of agencies by length of time consumer information has been offered and number of professional persons employed for consumer education	29
9.	Distribution of professional persons by time employed in present position and time of involvement in consumer education	30
10.	Distribution of professional person by educational background	31
11.	Frequency of volunteered concerns about foods and food shopping	37
12.	Selected food categories and types of food presented to respondents in Stage 2 of survey questionnaire	41
13.	Concerns expressed for potato and milk products reflecting different degrees of processing	42
14.	Concerns expressed for meats and meals reflecting different degrees of processing	43

15. Concerns expressed for processed forms of foods and total frequency of expression of concerns for all food types (including Tables 13 and 14) 44

16. Differences in attitude of respondents toward processing 50

17. Differences in attitude of respondents toward packaging 50

18. Differences in expression of positive and negative aspects of advertising 53

19. Differences in ranking of importance of specified concerns 55

20. Differences in suggested solutions to identified concerns 57

21. Respondents' opinions on changes in the number and type of consumer requests for information 67

22. Main types of consumer questions received by agencies 68

23. Summary of ranking of importance of consumer information needs 70

24. Methods of distributing consumer information 73

25. Summary of consumers and professionals' expressions of concerns and needs in foods and nutrition 77

CHAPTER I. INTRODUCTION

Dr. D. Leighton, past chairman of the Canadian Consumer Council, attributed many of the difficulties of Canadian consumers to problems of education and communication (Canadian Association for Adult Education, 1970). Surveys of consumer education in Canada indicate that both at the community level and in educational institutions there is a lack of Canadian consumer information. Consumer education courses in schools are considered "inadequate, ineffective, and not sufficiently relevant to consumer needs" (Canadian Consumer Council, 1972). For consumer education to be meaningful and effective, it must be in response to expressed needs of consumers. Information on consumer needs is essential to motivate the consumer to become knowledgeable, and to exercise his responsibility to seek further information.

Awareness of consumer concerns and misconceptions is relevant not only to educators in foods and nutrition, but also to food manufacturers and retailers. To achieve consumer satisfaction through product development, correction of justified consumer concerns, or provision of information to correct unjustified concerns, industry must be able to understand and interpret consumer needs.

This study is intended as an initial step in a research project to identify consumer needs for information and education in Alberta. This study is of an exploratory nature, intended (1) to identify consumer concerns about foods and nutrition; (2) to

determine the meaning of these concerns to consumers; (3) to determine how foods and nutrition professionals perceive ccnsumer needs for information; and (4) to compare the perceived needs of consumers with those revealed in the consumer study.

CHAPTER II. REVIEW OF LITERATURE PERTINENT TO CONSUMER CONCERNS IN FOODS AND NUTRITION

1. Development of the Consumer Movement.

Present consumer concerns about foods and nutrition may be viewed within the broader scope of the movement known as "consumerism." Underlying causes of consumerism, and dissatisfactions voiced regarding the marketplace as a whole, are relevant to examining consumer concerns about foods, nutrition, and food marketing.

The consumer movement is not new. Earlier movements, with less fervour and strength than today's consumer movement, resulted in laws being established in the late nineteenth century to regulate production and sale of foods and drugs in both Canada and the United States. A drive for further consumer protection laws developed in the 1930's, with the publication of books such as Your Money's Worth by Stuart Chase and F. J. Schlink in 1927, and The American Chamber of Horrors by Ruth DeF. Lamb in 1936. Lacking the popularity of the current movement, the early efforts at consumer protection were generally known as the "muckraking" era (Gaedeke, 1972; Bishop and Hubbard, 1969). Todays crusaders are more favourably termed "consumer advocates" than "muckrakers."

The current surge of consumer unrest began in the late fifties and early 1960's. Indicative of new consumer dissatisfaction was the appearance of books such as The Hidden Persuaders by Vance Packard and Silent Spring by Rachel Carson.

The influence of journalists in raising consumer awareness and in focusing concern is evident in each period. Furthermore, each movement occurred in an atmosphere of technological change and urbanization. Within the economic changes, consumers perceived a budget squeeze in which expectations exceeded resources. Whereas previous movements were diverted by wars, the present has been institutionalized, with the formation of government departments or posts created in response to perceived consumer demands.

Cause of the current movement may be attributed to changes in the economic and social structure of the previous decade (Aaker and Day, 1970, 1974; Herrmann, 1974). Changes in the marketplace are exemplified by inflation and rising prices. Coupled with consumer expectations for a better life style (through rising incomes), inflation has frustrated the consumers' ability to buy. In addition the consumer has demanded a high value for expenditures, as rising prices fostered increased expectations of product quality and performance. At the same time, greater product complexity has increased the likelihood of malfunction. The "new improved" slogan of advertising only heightens awareness of the perceived "performance gap" between price and quality satisfaction. The consumer finds past experience insufficient to judge the increased number and complexity of products, yet distrusts commercial information. With the lack of communication between consumer and business, the consumer perceives impersonal and

unresponsive institutions. The consumer appears increasingly skeptical of the ability and desire of the marketplace to deliver satisfaction.

Changes in social structure magnify perceived imperfections of the marketplace. The low income consumer and his problems are more visible, and accentuate the apparent inequities of the marketplace and nonresponsiveness of institutions. Increased leisure time, higher educational levels, rising incomes, and greater general affluence have added impetus to the forces of consumerism. The quality of life and environment have received greater focus of attention as subsistence needs have been fulfilled and the affluent sector has turned more to altruistic motives, social needs and self-fulfilment (Aaker and Day, 1974).

The "average consumer" however, may experience only a vague or diffuse discontent with the marketplace. Concerns tend to be latent, rather than explicit, but may be focused by a scandal or crisis such as visible evidence of lack of safety in foods, drugs, or automobiles, or by a journalistic expose. The role of the consumer advocate, sympathetic legislator, or consumer organization has been to isolate issues and raise public awareness. Because the individual's role as "consumer" is a diverse set of activities with no perceived common base and is of indirect interest only (Friedman, 1971; Bogart, 1972), concern of individuals may require a catalyst such as media publicity to raise general intensity of concern to the point where concern is verbalized or regulatory action requested

(Aaker and Day, 1970).

Consumer advocates and journalists, particularly Rachel Carson in Silent Spring , are credited with triggering much of the concern in the area of foods and nutrition (Bishop and Hubbard, 1969; Herrmann, 1970). Carson's intended emphasis was ecology, and the chemical pollution of water and soil. However, reference to accumulation of chemicals in food animals and pesticide residues on produce also received attention, both awareness and concern from the public and defensive rebuttal from the food industry. Wider concern for food safety (concern for pesticides and additives) and nutrition appears to have developed out of the initial focus on ecology, with books by Elspeth Huxley (Brave New Victuals) and Booth Mooney (The Hidden Assassins) in 1965 and 1966. A concern for adequacy and enforcement of food and drug laws was heightened by such efforts, following closely the tragedy of thalidomide and publicity of pesticide residues in previous years. A concurrent rise in food prices, leading to supermarket boycotts in the United States, increased the general awareness of food and food marketing. The effects of DDT in the environment and possible implications for the food supply also came to public attention. In the period 1970 to 1972, numerous books by consumer advocates expressed concern for quality and safety of foods: Adelle Davis, Let's Eat Right to Keep Fit (1970, in paperback edition); James Turner, The Chemical Feast: The Nader Summer Study Group Report on the Food and Drug Administration (1970); Beatrice Trum Hunter, Consumer Beware Your Food and What's Been Done To It

(1971); H. Wellford, Sowing The Wind (1972) and others. Books such as The Supermarket Trap by Jennifer Cross (1971) portrayed concern about food marketing.

2. Consumer Concerns in Foods and Nutrition.

(a) Consumer concerns portrayed by consumer advocates.

Concerns, as viewed by consumer advocates, are manifested in the sampling of titles listed previously. Similar themes are repeated in all of these books: loss of nutrients due to refinement of foods; questionable safety of processing and use of additives ("chemicals" or "poisons"); hazards from uncontrolled use of pesticides; use of hormones and antibiotics in feed and the concentrated rearing practices for beef and poultry; and implications of processing for development of diseases in man (due to removal of nutrients or accumulation of additives from food). Safety and nutritional adequacy are the main concerns expressed in these books. A perceived need for increased regulatory control is also a concern.

(b) Food industry viewpoint of consumer concerns in food and nutrition.

The extent of the food industry's interest in consumerism and emphasis on concerns appears to reflect trends in writings of consumer advocates. For example, from an overview of articles in the journal Food Technology, emphasis on consumer concern in food and nutrition was slight in the period 1960 to 1964, and centered on ecology, pesticide residues, the world food problem

(supply), and use of food additives (for example, Mrak, 1961; Stewart, 1962; Hall, 1964; Cook, 1964). In 1964, an editorial emphasized new prominence of nutrition-oriented articles, and the responsibility of food technologists in the area of food and nutrition (Stewart, 1964). Emphasis on nutrition was concerned mainly with problems of world food supply, until problems of nutritional deficiencies in the United States were publicized following a national nutrition survey, and the nutritional adequacy of the food supply was questioned (Nesheim, 1971). Following this, articles have stressed the need to provide nutrition information through labels (Bauman, 1971; Babcock, 1971); fortification of conventional and fabricated foods (Lachance et al., 1972; Clausi, 1973); and effects of processing and storage on nutritional value (Lund, 1973; Kramer, 1974).

Articles on food additives represent a second main area of interest. Articles reflect an increasing awareness of consumer dissatisfaction with the food industry, and reflect what the food industry perceives as dominant consumer concerns. Concerns expressed by the consumer advocate, and concerns of the "average" consumer are differentiated by the food industry. Consumer advocates are for the most part denounced as "self-appointed instant experts" or politicians who capitalize on the vote-winning potential of consumer advocacy (Foster, 1972), or as an intolerant and incompetent "disaster lobby" that determines priorities of the industry (Mehren, 1971). Mehren (1971) states the hypothesis that neither the advocate nor the food industry know precisely what consumers want, or whether

there is uniformity among consumers with regard to wants. Furthermore, there is a need to find out what consumers really think is wrong, evaluate their criticisms, and find positive remedies rather than defensive counterattacks. Mehren cites possible problem areas such as consumer concern for promotion, pricing, and merchandising of food, deceit through use of additives, and quality of the environment. Albrecht (1973) perceives a great interest in consumer concern for nutritional and "natural" aspects of foods, and the need for new food products to offer "psychological satisfaction" to satisfy consumer values for tradition in a changing lifestyle. Marshall (1974) also alludes to values for tradition, simplicity, and the family unit as important influences in the turn from conventional foods to health foods. Fear of additives, environmental concerns, and the concern that nutrition has been sacrificed for convenience are also offered as possible reasons.

Hall (1971) and Baker (1972) explore what they consider distinctions between consumer wants and "slogan issues" of consumerists (consumer advocates). Baker lists nutritional labelling, ingredient labelling, food additives, environmental impact, open dating, deceptive packaging, and advertising as slogan issues, whereas "consumer wants" are "value for money", convenience, freshness and quality, ingredient lists, designation for serving sizes and numbers, usage directions, honest pictures, and decreased advertising. Hall classifies as the "fringe hysteria" a small group of laymen and scientists whose statements portray concerns for additives, pesticide

residues, environmental contaminants, nutritional problems, and to a far lesser extent, microbiological hazards and natural toxicants. Hall states however, that "more than 95%" of the public has no concern or even interest in these topics, but that the "average homemaker" is concerned with value, nutrition, and safety, in a general sense.

The foregoing statements of concerns of advocates and consumers have no acknowledged basis in consumer research. Yohalem (1971) quotes studies showing that 41% of the consumers do not trust the food industry and are concerned about lack of protection. Areas of concern were not specified, however other studies show that 70% of consumers felt there was at least some need to add vitamins to foods (Anonymous, 1972).

Studies have been conducted that are pertinent to specific food commodities, rather than foods and nutrition as a whole. Stiles and McFadyen (1973b) reported consumer concerns for meats as quality (fat and bone), safety (bacteria, "worms"), added colour, poor quality ingredients, and poor nutritive value, the latter two factors being particularly applicable to processed meats. Warland and Herrmann (1971) reported misconceptions about "imitation foods" such as coffee whiteners, whipped toppings, and margarine with regard to cost, nutritive value, and quality.

The need for further research is recognized (Mehren, 1971; Hall, 1971), and the need for public education is stressed. Suggested approaches to the problem of consumer education are to justify food additives on the basis of cost benefits to the

consumer (Angeline and Leonardos, 1973), and to convince consumers of the safety of food additives on the basis of amounts consumed and comparisons with natural toxicants (Middlekauff, 1974). A positive approach to nutrition education and product promotion based on relevant consumer values is emphasized by Mehren (1971), while Yohalem (1971) supports gaining greater consumer confidence through corrective action, such as balanced fortification of nutritionally inferior products, rather than negative rhetoric directed at consumer critics.

(c) Consumer concerns as viewed by professional persons in foods and nutrition.

There appear to be few studies of consumer concerns done by professional persons in foods and nutrition, or of consumer concerns as viewed by professionals. Metzen (1967) stressed that an educational approach to consumer problems should be based on immediate needs perceived by consumers, in order to develop meaningful information content within which additional information considered important by professionals for performance of the consumer role could be incorporated. In a study to determine areas important to consumers as opposed to areas considered important by professionals, Metzen found that "experts" ranked information portraying general principles and broad applications high (for example, knowing general buying principles applicable to most products), while consumers ranked topics with clearly-defined, immediate applications high (for example, knowing how to judge quality of fresh foods - fruits,

vegetables, meats). The study showed that professionals and consumers tended to view concerns and needs for information differently, and that a preview of consumer opinion was desirable prior to undertaking educational efforts. Application of this approach in formulating a program of nutrition education indicated consumer concerns for general inflation, life style (changing values), and ecology, which were reflected in foods and nutrition as more specific concerns for cost and economy, desire for "natural" foods, and concern for nutrition, processing, and additives (Ontario Food Council, 1974).

In the area of nutritional information, studies show some similarity between consumers and professionals in ranking of types of information to be included (Stokes, 1972). However, reasons for the ranking and the extent of concern for nutritional quality of food were not investigated.

Other studies done by food and nutrition educators concentrate primarily on food habit research, nutritional deficiency, and approaches to nutrition education. The importance of considering food habits and concerns in nutrition education is recognized. Informational needs suggested for nutrition education were given by Harker and Kupsinel (1971) as the ability to evaluate claims in advertising and literature, selection of foods for individual needs, proper handling of foods, and knowledge of nutrition. Positive use of public interest in nutrition, whether due to advertising or presence of misinformation, was advocated. The necessity of a new approach

to reach low income consumers, based on realization of their needs and social environment, has also been stressed (Ratner, 1968).

These three aspects of consumer concerns for foods and nutrition (as portrayed by consumer advocates, and as viewed by the food industry and foods and nutrition professionals) emphasize the need for more information about consumer concerns. For foods and nutrition educators to function efficiently, and for the food industry, food regulatory agencies, government departments of consumer affairs to meet consumer needs in foods and nutrition, more reliable documentation and general evaluation of consumer concerns appears to be a basic necessity.

CHAPTER III. METHODS

1. Introduction.

This study is intended as an initial step in a multi-stage study of consumer needs for information and education in Alberta. Before the actual concerns and needs can be evaluated in a quantitative study, an exploratory study is necessary to identify the major areas of concern and to determine their meaning to consumers (Sampson, 1967; Lunn, 1969). The results of this Edmonton study could then serve not only as the basis of a quantitative study in Alberta, but could also serve as a guide for determining consumer concerns and needs for information in other areas of living.

As discussed by Sampson (1967), exploratory research of this nature requires a more flexible approach than that offered by the standardized interview or structured questionnaire. That is, exploratory research to identify relevant attitudes or formulate hypotheses requires a qualitative approach. Whereas quantitative research implies a relatively large sample, selected using a scientific sampling procedure, from which the data obtained may be analyzed for purposes of determining degrees of statistical significance, these are neither the prerequisites nor the object of this type of exploratory, qualitative study.

The most commonly used techniques of qualitative research are group interviews and relatively unstructured intensive individual interviews (Collins and Montgomery, 1970). Small

numbers of respondents are interviewed, and scientific principles of sampling are usually waived in favour of including relevant groups of respondents in the sample.

The interviews may have varying degrees of structure or direction. The semi-structured or "focused" interview uses an interview guide which specifies major areas of inquiry, but allows considerable freedom in expression of opinion. This gives the interviewer freedom to probe or explore responses and reactions for greater detail. The focused interview promotes greater comparability between interviews, allowing for greater ease of analysis, while maintaining the desired freedom (spontaneity) of the qualitative interview.

2. Questionnaire Development.

Two interview schedules were planned - a consumer survey and a survey of professionals involved in foods and nutrition education.

A. The Consumer Survey.

The original intention was to use a repertory grid technique (Frost and Braine, 1967) to determine concerns (factors) about foods and nutrition. This could not be applied readily to the interview, because of the many different food types and categories that had to be represented. As a result, a three-stage questionnaire was developed, progressing from a relatively unstructured, non-directive format, to a more

structured final stage in which respondent's reactions to suggested areas of concern were obtained. The list of concerns was based on the expressions of consumer advocates and food industry spokesmen, which have been cited in the literature review (Chapter II).

Stage 1. Respondents were requested to volunteer concerns that they experienced with foods and nutrition.

Stage 2. This was a semi-structured section in which respondents were presented with 8 sets of 3 cards, each set representing a different food category and each card within each set named a related food with a varying degree of processing (these are listed in Table 12, page 41). Respondents were requested to differentiate the foods in each set on the basis of concerns they might have for one and not for the others, or for two and not for the other. The concerns were recorded and the meaning of each ascertained by further questioning by the interviewer.

Stage 3. This was the structured section of the survey in which respondents were presented with a list of 8 topics of possible concern. The interviewer enquired whether the topics had ever been considered by the respondent, and determined the respondents' attitude toward each topic. Following the discussion respondents were requested to rank the topics in order of importance.

The interview schedule included demographic information to be gathered about each respondent. This included information on the respondent's information seeking behaviour, knowledge of

food regulations, consumer-oriented activity, and factors that might influence food habits. Age, income, education, and occupation information was also gathered for each respondent. The consumer interview schedule is shown in Appendix A.

B. The Foods and Nutrition Professional Survey.

The survey of professional persons employed a greater degree of structure, while allowing respondents freedom to express their opinions and allowing the interviewer to probe for greater detail and information.

The basic purpose of this survey was to determine the professional persons' focus and assessment of consumer concerns about foods and nutrition. To do this, respondents were questioned about the consumer's main needs for information, and the type of information that consumers were currently requesting. In addition, information on consumer programs, and changes needed in the information system and distribution procedures, was obtained.

The interview schedule used with professional persons is shown in Appendix B.

3. Pretesting.

Both questionnaires were pretested and revised accordingly. The consumer survey was pretested on a selected sample of 10 respondents. The pretests were conducted with a view to identifying ambiguities in the questionnaire, to coordinate

methods of probing respondents by the interviewers, and to assess the length and productivity of each stage of the questionnaire. As a result, the consumer survey was shortened to allow it to be completed within one hour. In particular, two food groups (fish and desserts) were eliminated from Stage 2 as they were unproductive and/or repetitious. The professional survey was only pretested on one professional respondent, who had worked in a variety of areas of foods and nutrition information and education, including the media, hospital dietetics and post-secondary education. Only minor alterations were considered necessary, and the pretesting was discontinued to avoid depleting the sample for the study.

4. Sampling.

The sampling procedures are presented with the reports of the surveys in Chapters V and VI. In the consumer survey, some alterations to the initial sample were made so that all segments of the population were represented. In the professional sample, an attempt was made to include all the agencies involved in foods and nutrition education or information in Edmonton. The number of persons interviewed in each is shown in Table 1.

5. Interviewing.

The interviews were conducted by two trained interviewers. The interviewers established a standard approach to probing and

Table 1. Professional agencies and number of respondents interviewed for the study.

Agency	Number of professional persons interviewed
Federal Government:	
Health Protection Branch	1
Department of Consumer and Corporate Affairs	1
Provincial Government:	
Department of Health and Social Develcpment	
Local Health Services, Nutritionists	2
Mental Health Division, Community Service Unit	1
Department of Agriculture	
Extension Division, Home Economics Branch	6
Communications Branch	2
Nutrition and Food Marketing	5
Department of Consumer Affairs	1
Municipal Government:	
Local Board of Health, Environmental Health Services	1
Educaticnal Institutions:	
University of Alberta	1
Community College	1
Alberta Vocational Centre	1
Utilities Services:	
Electricity	2
Gas	3
Media:	
Radio	1
Television	1
Newspaper	2
Marketing Boards or Commodity Groups	5
Consumers Association of Canada	3
Other:	
Canadian Diabetic Association	1
Family Service Association of Edmonton	1
Alberta Hospital Services Commission	1

eliciting reactions, but the data was not tested for interviewer effects. The consumer surveys were conducted in the respondent's home, and professional person surveys were conducted by appointment with the professional person to be interviewed.

CHAPTER IV. DEMOGRAPHIC DESCRIPTION OF THE SURVEY SAMPLES

1. Consumer Sample.

A broad spectrum of respondents was included in the consumer sample, thereby meeting the objective of the sampling procedure. This is evident from the data presented in Tables 2 and 3. The distribution of the 60 respondents between family income levels, education levels and occupation is shown in Table 2. The cross-tabulation of Table 3 presents the distribution of respondents by income category and education level. Designation of income as low, middle or high was based on data drawn from Kupfer (1967), Ossenberg (1967) and Goldblatt et al. (1965), and modified to update income groups to current levels, based on Statistics Canada data for Edmonton (Statistics Canada, 1971). Annual income less than $7,000 was categorized as low, $7,000 to 15,000 as middle, and greater than $15,000 as high. For ease of tabulation, those respondents reporting less than high school education were classified as low education, those with high school, technical or vocational training or an apprenticeship as middle, and those with some university or completed university as high.

Age of the respondent has been shown to be an important factor influencing consumer attitudes to foods (McFadyen, 1972). The distribution of age groups within the sample is shown in Table 4. A wide range of age groups is represented within the sample.

The times at which interviews are conducted can act as a

Table 2. Distribution of respondents by family income, education and occupation.

Income	Number of respondents (60)
Refused	2
Don't know	6
Less than $3,000	4
$ 3,000 - 4,999	9
$ 5,000 - 6,999	4
$ 7,000 - 8,999	3
$ 9,000 - 10,999	6
$11,000 - 12,999	4
$13,000 - 14,999	5
$15,000 - 16,999	3
More than $17,000	14

Education	Female	Male
Less than High School	11	11
High School	21	11
Vocational/Technical	8	3
Apprenticeship	0	4
Some University	2	8
University	12	12
Refused	1	1

Occupation of main wage earner	
Unemployed	2
Retired	11
Semi-, unskilled	9
Skilled (technical)	10
Sales	4
Student	2
Professional/Managerial	22

Table 3. Crosstabulation of respondents* by education and family income level.

	Educational Level		
	Low	Middle	High
Income Level			
Low	7	7	3
Middle	3	10	5
High	0	9	8
Refused or Don't know	4	2	1

*Number of respondents reporting is 52. Eight respondents answered 'Don't know' or refused to give the information for one or both of these factors.

Table 4. Distribution of respondents by age group.

Age group	Number of Respondents (60)
Under 25 years	6
26 - 30	8
31 - 35	7
36 - 45	11
46 - 55	15
56 - 65	8
Over 65 years	5

selective process in the sample. To avoid a selective process that would eliminate working respondents from the sample, interviews were conducted during the working day and in the evenings. About one-third of the interviewing was done in the evening. The number of regularly working housewives was 11 out of 55. Most respondents were female (53 out of 60). In two cases husbands and wives answered together, and there were five single male respondents.

Food habits and knowledge about foods could influence expressions of concern about foods. Some characteristics of the respondents that could influence awareness of concerns are shown in Table 5. Most respondents were those who regularly did the food shopping. Respondents who reported dietary problems were generally referring to overweight rather than special medical diets. Ethnic background was reported to influence the food habits of 10 out of 60 respondents. While it appears that ethnic influence might be reasonably represented in the sample, one of the more frequent reasons for refusing to complete the survey was ethnic origin, reflected through language difficulties.

The degree of information seeking and involvement in consumer-oriented activities or groups could also influence consumer awareness of concerns about foods. The involvement of respondents in information seeking and consumer groups is summarized in Table 6. A wide variety of information seeking patterns was represented.

Respondents were also tested for their awareness and

Table 5. Characteristics of respondents that could influence awareness of concerns.

	Number of Respondents (60)
Respondent regularly does food shopping	52
Dietary problems in family	24
Ethnic background of respondent influenced food habits	10
Rural background of respondent influenced food habits	16

Table 6. Information seeking and consumer-oriented activity of respondents.

Characteristic	Number of Respondents (60)
Member of Consumers Association of Canada	10
Watches consumer-oriented television programs:	
Marketplace	33
Ombudsman	20
Take 30	23
Morning Magazine	20
Reads consumer-oriented publications or newspaper columns:	
Consumer Reports	33
Counterpoints	30
SOS	33
Has sought consumer information (any source)	43
Has sought information from:	
Gas company home economists	22
Electrical utility home economists	6
Government department	11
Retail store	18
Other sources	35

knowledge of regulatory controls in foods. The distribution of the responses is shown in Table 7.

The object of the sampling procedure was to include a broad spectrum of respondents to obtain as diversified a range of opinions as possible. Based on the distribution of respondents between the demographic characteristics used to describe the sample, it appears that this objective was achieved.

2. Professional Respondents and Agencies.

The list of agencies and the numbers of individuals involved in food and nutrition information dissemination in Edmonton is shown in Table 1. Of the 26 organizations represented, nine have offered consumer information for the past 5 years or less (see Table 8). The number of professional staff employed by these organizations is also summarized in Table 8. The majority of these organizations rely on one or two persons to handle consumer information.

The time of employment of the professionals in their present position, and the length of time they have been involved in consumer education are summarized in Table 9. The large number of professionals in their present position for 2 years or less is consistent with the expansion or establishment of these agencies within the past 5 years or less. However, the experience of the professionals involved in consumer education indicates that a considerable range of experience was represented by the respondents. The educational background of the respondents is summarized in Table 10.

Table 7. Distribution of responses to questions regarding regulatory controls in foods.

Question	Number giving each response:			
	Yes	Think So (Qualified Yes)	No	No Opinion or Don't Know
Do you think....				
A. meats are graded for quality according to government standards?	33	11	6	10
B. canned fruits and vegetables are graded for quality according to government standards?	24	14	7	15
C. government regulations control the kind and amount of additives in foods?	16	12	11	21
D. the contents of canned beef stew are printed on the label?	17	8	10	25
E. products that have vitamins or minerals added must state it on the label?	36	10	5	13

Table 8. Distribution of agencies by length of time consumer information has been offered, and number of professional persons employed for consumer education.

Time consumer information available	Number of agencies
2 years or less	5
3 to 5 years	4
6 to 10 years	5
more than 10 years	10
not applicable (no program of consumer information)	2

Number of professional persons involved	Number of agencies
1 to 2	19
3 to 5	2
6 to 10	1
more than 10	4

Table 9. Distribution of professional persons by time employed in present position and time of involvement in consumer education.

Time in present position	Number of professionals
less than 2 years	19
2 to 5 years	13
6 to 10 years	7
more than 10 years	4

Time involved in consumer education	Number of professionals
less than 2 years	8
2 to 5 years	10
6 to 10 years	15
more than 10 years	10

Table 10. Distribution of professional persons by educational background.

Background	Number of Professionals
Household Economics	
Bachelor's level	16
Master's level	5
Dietitian	8
Teaching Certificate	4
Other University	6
Journalism	2
No formal background in consumer education	2

The object of the professional person sampling was to include as many as possible of the persons involved in consumer education in Edmonton. Although the emphasis of this study was concerns for foods and nutrition, the sample was not limited to those agencies or persons claiming expertise or activity in foods and nutrition. The persons interviewed covered a wide range of backgrounds, and a varied educational background. It is apparent that the persons interviewed for this survey included the principal agencies and persons involved in foods and nutrition information and education in Edmonton, excluding teachers of home economics in the schools.

CHAPTER V. CONSUMER CONCERNS ABOUT FOODS AND FOOD MARKETING

1. Introduction.

Awareness of consumer concerns and misconceptions about foods is considered a prerequisite to providing adequate consumer information and education. These consumer opinions could also be of value to the food industry for effective direction of product development and advertising, both promotional and informative. Articles published in the food trade journals have indicated a growing concern in the food industry for consumer opinions and misconceptions about foods. Many of these articles are of a defensive nature, in response to claims of consumer advocates, food faddists and alarmists.

Although there is an increasing awareness of consumer needs for information and education, there is little documentation of actual needs. Previous studies at the University of Alberta have endeavoured to document some of the consumer concerns for selected food commodities (McFadyen, 1972; Ewanyk, 1972; McFadyen, Stiles, Berg and Hawkins 1972 and 1973; and Stiles and McFadyen, 1973a and b). The object of this study is to determine factors of consumer concern for foods and food marketing.

2. Methods.

(a) Questionnaire.

An open-ended 3-stage questionnaire was designed to

determine areas of concern with foods.

Stage 1 consisted of open-ended general questions which allowed respondents to volunteer concerns about foods or food shopping.

Stage 2 allowed respondents to express their reactions to different categories of foods, within each of which were foods with varying degrees of processing, for example:

Potatoes:	Fresh	Frozen French Fries	Instant Mashed
Meats:	Fresh (beef, pork, poultry)	Ham, Bacon	Sliced bologna, canned luncheon meat
Milk:	Whole Milk	Canned evaporated milk	Powdered Milk

Respondents were required to differentiate foods within each category that they bought or did not buy, and were requested to specify reasons (concerns) for avoiding these foods, plus any additional concerns about other foods in the category.

Stage 3 requested respondents to consider and rank a list of eight factors, related to foods, that might represent concerns to consumers. These included:

Labelling
Additives
Cost
Processing
Packaging
Nutrition
Advertising
Food Regulations

The three stages ranged from non-directed and non-suggestive questions to more specific questions designed to

elicit reactions to named subjects of possible concern. Each stage of the questionnaire allowed for open-ended responses from respondents, and probing by the interviewer to determine the meaning of expressed concerns.

(b) Sampling.

A sample of 60 respondents representing three income levels was chosen, based on the recommendation (Frost and Braine, 1967) that 20 respondents within a group are sufficient to give a full expression of concerns. Other researchers suggest numbers of 10 to 30 respondents as optimum for defining problem areas and for ease of data analysis in exploratory research (Sampson, 1967; Lunn, 1966).

The sample was drawn by random selection of Edmonton census tracts. The mean incomes for the census tracts were obtained from Statistics Canada census data (Statistics Canada, 1971), and the tracts categorized as low, middle or high income. Those tracts with a mean income level less than $7,000 were designated as 'low', those with mean income levels $7,000 to $15,000 as 'middle', and greater than $15,000 as high. Within each of these income categories, five census tracts were drawn at random, and four households were surveyed within each randomly selected tract. Households were selected within the census tracts by interviewing the first four respondents available. Interviewing was conducted at hours throughout the day and evening to ensure that working respondents could be included in the sample.

After half the surveys (30) had been completed, the demographic characteristics of respondents were determined in order to identify missing groups, for example, young families with children, working mothers, and single persons. The remaining surveys were selected from within the previously drawn census tracts and from other areas selected to provide the missing groups.

The object of sampling in this type of study is to ensure that all types of consumers are represented. This takes preference to strict randomization of the sample (Sampson, 1967).

(c) Analysis.

Concerns expressed in each stage of the questionnaire were tabulated for the total sample. Concerns expressed by only small numbers of respondents (two to three) were included to incorporate all concerns that were expressed.

3. Results.

(a) Volunteered concerns (Stage 1 of Questionnaire).

A total of nine different concerns were expressed in response to Question 1 of Stage 1. These are summarized in Table 11. The most dominant volunteered concern was food prices. After food prices, packaging and quality were expressed most often.

The volunteered concerns were followed by 3 questions to

Table 11. Frequency of volunteered concerns about foods and food shopping.

Concern	Number of Respondents (60)
Prices	43
Packaging	13
Quality	11
Processing	7
Additives	5
Nutrition	5
Advertising	3
Labelling	2
Safety (food contamination)	2
No concerns	3
No answer	1

allow respondents the opportunity to express additional concerns in a more indirect manner. Respondents expressed these additional concerns through their dissatisfactions with products, their reasons for avoiding certain food types, and factors influencing their initial selection of new food products.

Dissatisfaction with products generally resulted in expressions of isolated concerns of a transitory nature such as the quality of specific produce items and/or meats. More dissatisfaction was expressed for meats than for any other food group. Some dissatisfaction with food selection was expressed relative to time of the week or specific stores.

In general, respondents found it difficult to name foods that they did not buy. Individual food products were named more often because of personal or family dislikes, than for other reasons such as dissatisfaction. Reasons for avoiding food types emphasized price, which agreed with the major concern expressed in Table 11. However, greater concern was expressed for processed foods ("prepared", "convenience", "artificial", "instants") than was volunteered, as shown in Table 11.

There were three aspects of the concerns for food processing - safety, which was mainly concern for chemicals (additives); nutrition, which was a concept of lower nutritional value of processed foods; and a value judgement based either on a rejection of convenience and the present day way of life, or on the dissatisfaction with texture, flavour and value for money

of processed foods. When respondents claimed that "processed" foods were "not good for you", the underlying reasons appeared to be "poor nutritive value", rather than a concern for safety as a function of additives or handling of the food. Concern for nutritive value of foods was also identified separately from the concern for processing. Dissatisfaction with sweetened foods contributed markedly to this concern.

Factors influencing initial selection of new food products introduced an additional factor of concern, that being a desire to buy Canadian products. In the volunteered concerns there were expressions of avoidance of imported foods, but this was generally related to cost. In this section, respondents were referring to reading the label to establish the country of origin, as a loyalty factor or a desire to buy locally-produced or Canadian-produced products.

A second concern noted by a small number of respondents was avoidance of new products because most of these fall into the category of "convenience" or processed foods.

Other factors influencing acceptance of new food products did not indicate consumer concerns. These included discount coupons, store demonstrations (taste samples), and family preferences. Advertising was not cited as a factor influencing acceptance. In fact, there was a tendency to deny any influence of advertising on the purchase decision. However, the influence of advertising in creating an awareness of the product was admitted.

(b) Concerns for foods with different degrees of processing (Stage 2 of Questionnaire).

The food types selected for presentation to respondents are listed in Table 12. Sets of three cards, each representing food types within a specific category, were presented to respondents in sequence, until all categories had been discussed. Respondents were asked to separate food types on the basis of concerns. In fact, respondents sorted them according to their use of the food type. If reasons for not using specific foods were not volunteered, then they were requested by the interviewer. General concerns for the food category or for other food types in the category were also requested.

The results for these food categories could be divided into 2 groups, based on the response they elicited:
(i) Potatoes, Milk, Meats and Prepared Meals could be grouped together because respondents were expressing different degrees of concern for the different levels of processing; and (ii) Breads, Cereals, Snack Foods and Orange Juice could be grouped together because respondents expressed little or no concern for the natural or relatively unprocessed form, whereas they expressed specific concerns for the processed product. Only the results for the processed form are given for this group.

Results for the two groups are given in Tables 13, 14 and 15. The totals for each concern for all of the foods tested are given in Table 15.

Table 12. Selected food categories and types of food presented to respondents in Stage 2 of survey questionnaire.

Food Type	Food Form - Degree of Processing		
Potatoes :	Fresh	Frozen French Fries	Instant Mashed
Milk :	Whole	Canned, Evaporated	Powdered
Bread :	Health	Cracked wheat	White
Cereals :	Oatmeal	Puffed wheat	"Cheerios"
Meats :	Fresh (beef, pork, poultry)	Ham, Bacon	Sliced bologna, canned luncheon meat
Snack foods :	Nuts	Pretzels	Potato chips
Meals :	Stewing beef	TV dinner	Canned stew
Orange juice:	Fresh	Canned	Powdered

Table 13. Concerns expressed for potato and milk products reflecting different degrees of processing.

Concern expressed	Number of respondents expressing the concern					
	Potatoes			Milk		
	Fresh	Frozen	Instant	"Fresh"	Canned	Powdered
Price	0	2	3	2	0	0
Packaging	0	0	0	0	0	0
Quality	6	14	29	4	12	18
Processing	0	0	6	2	1	5
Additives	0	2	6	0	0	0
Nutrition	0	7	6	0	0	3
Advertising	0	0	0	0	0	0
Labelling	0	0	0	0	0	0
Safety	0	0	0	0	0	0
Ingredients	0	0	0	0	0	0
No concerns	47	22	5	51	29	25
No opinion	0	1	7	0	2	2
Totals*	6	25	50	8	13	26

* Excluding "no concerns" and "no opinion."

Table 14. Concerns expressed for meats and meals reflecting different degrees of processing.

Number of respondents expressing the concern

	Meats			Meals	
Concern expressed	Fresh	Processed	Extensively processed	Stewing beef	Canned, frozen
Price	14	12	5	14	15
Packaging	3	0	0	0	0
Quality	9	7	30	3	35
Processing	0	0	3	0	2
Additives	2	1	3	0	5
Nutrition	0	0	5	0	9
Advertising	0	0	0	0	0
Labelling	0	0	0	0	0
Safety	3	0	0	0	5
Ingredients	0	0	12	0	0
Pork	7	1	2	0	0
No concerns	29	30	13	43	12
No opinion	0	0	0	0	1
Totals*	38	21	60	17	71

* Excluding "no concerns" and "no opinion."

Table 15. Concerns expressed for processed forms of foods and total frequency of expression of concerns for all food types (including Tables 13 and 14).

Concern expressed	No.of respondents expressing the concern: Snack foods	Orange juice	Bread	Cereals	Total frequency of expression for all fcods tested
Price	8	2	0	2	79
Packaging	0	0	0	0	3
Quality	0	10	14	0	191
Processing	1	0	0	0	20
Additives	0	2	3	3	25
Nutrition	21	13	26	38	128
Advertising	0	0	0	8	8
Labelling	0	0	0	0	0
Safety	0	0	0	0	8
Ingredients	0	0	0	0	12
Pork	-	-	-	-	10
No concerns	23	17	22	18	
No opinion	0	0	0	2	
Tctals*	30	27	43	48	

* Excluding "no concerns" and "no opinion."

The overriding concern was for quality, followed by nutrition, then cost. By comparison, other factors of concern were relatively unimportant. The relative importance of packaging was dramatically reduced compared to concerns expressed in Table 11, and labelling was not mentioned as a concern. A new expression of concern was for ingredients of processed meats, primarily related to aesthetic values or concerns. Sugar was also cited as an ingredient causing concern, especially in processed cereals, and to a lesser extent, in powdered orange crystals. However, this concern was related to nutrition and dental health, and was therefore included with concerns for nutritive value.

Another new expression of concern related to meats, was for pork. Concern was related to the belief that pork was high in calories and cholesterol and contributed to high blood pressure. One respondent was concerned about "worms" in pork.

Concern for quality, as expressed in this section, was primarily a concern for flavour, texture, odour, and, in some cases, the freshness of the product available from the store. In this section of the study, respondents were generally judging the eating quality and assessing the acceptance of the food in the home, rather than in the retail store.

An expression of concern for force feeding of poultry was included under "Quality" of fresh meat, because the concern was for texture and flavour, rather than for safety or any other factor.

Concern for nutritive value related primarily to the food being "not good for you", and was principally associated with the highly processed foods. The awareness of nutritional differences and even the expression of concern about nutritive value did not necessarily mean that respondents' food choices were being influenced. This applied not only to white bread, but also to packaged cereals, orange drink crystals, and a qualified usage of other "convenience" foods.

(c) Respondents' reactions to a specified list of concerns (Stage 3 of Questionnaire).

The following list of possible concerns about foods was presented to the respondents to obtain their reaction:

Labelling
Additives
Cost
Processing
Packaging
Nutrition
Advertising
Food regulations.

Respondents were asked whether they had ever considered these topics, and whether they were important to them, either as a benefit or as a concern. It was stressed that both aspects of opinion were important. Following discussion of the topics, respondents ranked the topics in order of importance to them, and suggested solutions to problem areas identified.

Reactions to Concerns.

(i) Labelling: Respondents reporting least use of labels were also reporting least dissatisfaction with labelling. The principal uses of labels by these respondents appeared to be brand identification and directions for use. Those expressing dissatisfaction with labelling desired the following additional label information:

(1) greater clarity in ingredient listing, including more extensive listing and amounts of ingredients;

(2) nutritive value;

(3) more grade information;

(4) clearer weight declaration (such as unit pricing) for price comparison; and

(5) clearer indication of origin of product (to indicate Canadian or Alberta produced products).

(ii) Additives: While this term was meaningless to some respondents, most respondents were generally familiar with the term, but it carried a negative connotation. The reasons for this negative connotation were:

(1) Aesthetic factors, such as colour and flavour were recognized, but concern was expressed for the worth of these benefits due to doubts concerning safety, amounts and forms of additives, adequacy of controls, and possible unpredicted long-term effects.

(2) The necessity of preservatives for maintaining food supply was recognized, but concern was expressed that consumers could be deceived as to age and quality

of the product. If deception was not occurring, certainly the opportunity for this existed with use of preservatives and artificial colours and flavours.

(3) Concern was expressed that if the food industry and retailers handled foods properly, for instance maintaining proper stock rotation, the need for preserving additives would be reduced.

Only 3 out of the 60 respondents appeared to have made a conscious decision that additives were safe. Others who expressed no concerns about additives (11 out of 60) did so because they had no opinion (i.e. they had never considered the issue).

(iii) Cost: Price increases and price variations between stores were the principal bases for concern. More concern appeared to be expressed by low income respondents, but the middle income group reported most change in buying as a result of high costs. Respondents suggested the following reasons for increased food costs:

(1) general inflationary trends;

(2) union wage demands;

(3) the number of middle men in the food marketing process;

(4) rising costs of farm production (with a sympathetic orientation);

(5) excessive mark-up at the retail level; and

(6) excessive packaging and advertising.

Only one respondent recognized consumer demands for variety,

packaging and attractive stores as a contributing factor to food costs. Some respondents considered that quality had decreased while prices had increased. Decreased quality was attributed in particular to items offered at "special" prices.

(iv) Processing: This term was also meaningless to some respondents, though most respondents generally understood the term, and had a negative or ambivalent attitude (that is, some benefits were recognized, but were qualified by concerns regarding processing). These results are summarized in Table 16.

Negative attitudes to processing implied lower quality ("artificial" colour or flavour, or poor flavour compared to "home-made"), lower nutritive value, poor quality ingredients used, concern for cleanliness and handling, additives, cost, and possible deception of consumers.

Processing was associated with ready-prepared convenience foods or "instants." Some canned and frozen foods were not considered to be processed.

(v) Packaging: The proportion of respondents expressing concerns increased with increasing income level. The distribution of respondents expressing concern is shown in Table 17. The concerns include:

(1) excess packaging (waste);

(2) price of packaging to the consumer;

(3) non-standard sizes;

(4) restricted choice due to prepackaging (especially meats and produce);

Table 16. Differences in attitude of respondents toward processing.

	Number of Respondents (60)
Not understood	16
No concerns	11
Positive attitude	6
Ambivalent	12
Negative attitude	15

Table 17. Differences in attitude of respondents toward packaging.

	Number of Respondents (60)
No opinion	24
Ambivalent	12
Negative opinion	24

(5) lack of small sizes;

(6) deceptive packaging (especially meats, but also slack fill of boxed products); and

(7) misrepresentation of contents (as in advertising, fancy packaging, product description and pictures on packages).

Respondents with an ambivalent attitude were those who recognized the advantages of packaging for convenience (prepared foods), protection from contamination, and ease of shopping, but qualified their responses with the negative aspects of packaging expressed above. A number who had no opinion associated packaging with "packaged" or "convenience" foods, and dismissed it as irrelevant if they purchased few of these types of foods.

(vi) Nutrition: The number of respondents expressing concern appeared to increase with increasing income and education level. A clear definition of the meaning of nutrition to respondents was not evident. However, responses centered around completeness of the food (respondents desired a "natural," unrefined product, but were not "food faddists"). Vitamins, proteins, and foods that are neither high in starch nor high in sugar content were associated with high nutritive value. Poor nutritive value was illustrated by citing specific foods, such as refined and sweetened cereals, white bread, "convenience" foods ("instant" or ready-made), "junk" foods (including candy, pop, potato chips, and in some cases, cereal and convenience foods). The impression was given that avoidance of these foods would give a good diet. The need for nutrition education, as opposed to banning various food types from the market, was proposed as a

solution by some respondents.

(vii) Advertising: Respondents viewed newspaper and television advertising differently. Newspaper advertising was generally appreciated for its use as sales information and comparative price information, and for the fact that it could be more selectively used. Television advertising was generally viewed negatively, because of the types of foods advertised and advertising to children. Results are summarized in Table 18.

(viii) Food regulations: There was a low level of awareness of the type and scope of food regulations in Canada. This was illustrated by the lack of appreciation of food regulations in control of additives, package sizes, nutrition, advertising, quality and cleanliness of food stores.

Almost half of the total respondents had no concerns or no opinion, while about one-third felt that regulations were "insufficient" but could not specify areas of concern. Prices, quality and cleanliness in stores were areas named most often by those with specific complaints about adequacy of regulations.

Ranking of Concerns.

A total of 47 respondents out of 60 ranked the given list of eight topics in order of importance. The remaining 13 respondents did not rank the list either because they considered all of the topics to be important, or in the case of some low income, low education level respondents, the ranking was too difficult or complex to attempt.

Table 18. Differences in expression of positive and negative aspects of advertising.

Opinions	Number of Respondents (60)
Positive aspects	
Sales infcrmaticn (newspaper)	16
Informaticn on new products (TV)	9
No effect on respondents	11
No concern because of ability tc make cwn decision	11
Negative aspects	
Excessive advertising	8
Effect cn children	19
Types of food advertised	16
Exaggerated claims	12
Increased cost cf food	4

Rank one indicated greatest concern. If a respondent did not rank the complete list, that is, some items were considered not important, these items were given rank 8. An overall ranking of the list was obtained by noting the number of times each topic received a given rank. These frequencies were weighted by a factor equal to the rank given, and summed for each item on the list. If, for example, an item was rated first in importance by 4 respondents, second by 2, third by 5 and so on, the values (1x4) + (2x2) + (3x5).... would be summed. Relative importance of items was indicated by the magnitude of the sum obtained. Results are given in Table 19.

Cost and nutrition, followed by food regulations, were the most important concerns. Cost appeared to be more important for the low income respondents, but was second to nutrition for the high income respondents. In the total sample, cost and nutrition were ranked with equal importance.

Solutions to Problems.

Following the ranking of concerns, respondents were asked to suggest solutions to problem areas identified. High income, high education level respondents appeared to suggest increased consumer information and education, while low income, low education level respondents tended to suggest some measure of government control, particularly of prices. A dual approach of greater government control in some areas of concern, coupled with increased consumer information, was suggested by some of

Table 19. Differences in ranking of importance of specified concerns.

Factors	Rank order of importance (Weighted frequency of responses)
Labelling	5 (249)*
Additives	7 (277)
Cost	1 (49)
Processing	4 (239)
Packaging	6 (268)
Nutrition	1 (108)
Advertising	8 (315)
Food Regulations	3 (197)

*Numbers in the column give ranked order of importance of each factor. Numbers in parentheses are weighted frequencies of responses.

the middle and high income and education level respondents. Responses are tabulated in Table 20.

4. Discussion.

The qualitative nature of the study limits the interpretation of the results. However, the different approaches to the expression of concerns in the three stages of the study allows the range and emphasis of the concerns expressed, and the meanings of concerns to consumers, to be discussed.

(a) Range of Concerns Expressed.

A total of 10 concerns were volunteered in Stage 1, nine of them in response to the first open-ended question. These concerns, with the exception of labelling, were repeated in Stage 2. In Stage 2, ingredients of processed meats was expressed as an additional concern. This was an aesthetic value judgement specific to meats.

In Stage 2, foods from the four food groups were represented (meats, dairy, fruits and vegetables, breads and cereals). Foods in the meat group and different approaches to meal preparation (emphasizing forms of meats) elicited most expressions of concern (eight and six, respectively). The major concern expressed varied with the food group. Whereas a smaller range of concerns was expressed for breads, cereals and snack foods, greater concern was expressed about nutritive value of this group of foods than was expressed about the other food

Table 20. Differences in suggested solutions to identified concerns.

Suggested solutions	Number of Respondents (60)
Increased government control	
General	8
Control prices	11
Control processing	9
Control additives	6
Increase inspection	4
Decrease advertising	9
Decrease packaging	5
Increased consumer information and education	16
Don't know	16
No answer	2

groups represented.

Variations in the concerns expressed, and apparent differences in the extent of concern between different food types, indicates a need to include a wide range of foods in this type of study. Although Stages 1 and 2 resulted in almost the same list and number of concerns being expressed, the study indicates that differences in the relative importance of these concerns might well be expected, depending on the approach used. This could be of particular importance in a study to quantify these concerns about foods.

In Stage 3 of the questionnaire, all of the volunteered concerns in Stages 1 and 2 were included, except quality and safety. Food regulations were included in Stage 3, but they had not been cited as a concern in either Stage 1 or 2. The relative importance given to food regulations in the ranking of the list of concerns in Stage 3 suggests that food regulations are a concern to consumers, but that the approach in Stages 1 and 2 failed to evoke this response. However, the overlap of concerns between sections of the survey suggests that a representative range of concerns was expressed.

(b) <u>Emphasis on Concerns</u>.

Although the same concerns appeared in each section of the survey, the emphasis on each concern varied between stages of the survey. The three main concerns expressed in each stage of the survey are summarized below:

	Stage 1	Stage 2	Stage 3
1.	Prices	Food quality	Prices
2.	Packaging	Nutritive value	Nutritive value
3.	Food quality	Prices	Food regulations

These differences could possibly be attributed to the respondents' frame of reference when answering the questions. In Stage 1 the frame of reference appeared to have a shopping orientation, compared to the home-food preparation orientation of Stage 2. For example, in-store evaluation of quality centered on condition of produce or meats (i.e. freshness, fat and bone), whereas in-home evaluation emphasized eating quality of the foods (flavour and texture).

As a result, packaging and labelling were more relevant concerns to Stage 1 than to Stage 2. In contrast, nutritive value of foods was more important in Stage 2, suggesting a greater concern for nutrition in the in-home or meal preparation aspect of foods. This could have important implications for nutrition labelling of foods.

In Stage 3 of the study, possible concerns were presented to respondents. Although an effort was made to avoid a negative emphasis in the discussion, respondents generally gave greater emphasis to these topics as concerns, than was evidenced in the preceding stages of the study. For example, a greater proportion of respondents appeared concerned about advertising than was indicated by the volunteered concerns. However, in the ranking of the eight topics, concern for advertising was rated low in

importance.

The relative importance of food regulations might be attributed to respondents viewing regulations as a solution to dominant problem areas. Food regulations may also be viewed as a solution to concern for food quality. However, this was not strongly indicated by respondents' discussion of possible solutions to concerns about foods.

(c) Meaning of Concerns to Consumers.

Meanings of concerns to consumers are of importance for the food industry in communicating food and nutrition information to consumers. In particular, differences in understanding concepts between income and education (socioeconomic) groups could be of major importance in consumer education programs. The fullest expression of the meaning of the concerns was obtained from the discussions in Stage 3 of the questionnaire. Stages 1 and 2 generally elicited negative aspects of the same topics.

For example, several aspects of the meaning of processing to respondents were evident from respondents' reasons for avoiding certain foods (Stage 1), but this question alone did not indicate the numbers of respondents who had positive attitudes toward processing, or who found the term "processing" meaningless. The terms "additives, processing and food regulations" were not meaningful to all respondents. However, the terms used by respondents, such as "instants, artificial foods, chemicals and ready-made" are suggestive, and therefore difficult to use in determining attitudes toward these concepts.

The meaning of "nutrition" and "food value" also require clarification through further study, if the terms are to be used successfully in communicating with the consumer. This has been shown in studies on meats by McFadyen (1972) and Stiles and McFadyen (1973a and b).

The expression of "no concern" by respondents appeared to indicate "no opinion," rather than a positive statement of confidence. In a study of consumer concerns about meats (Stiles and McFadyen, 1973b), some consumers expressed no concerns about the meats they purchased, because they trusted their source of supply. In this study, an expression of no concern was not qualified with a similar expression of confidence.

This study has identified a series of concerns that consumers expressed about foods. The overlapping of concerns expressed between the different stages of the study suggests that the major concerns for foods have probably been identified. However, some concerns might not have been revealed. This is indicated by the concern for food regulations that was only observed because it was introduced as a concern of researcher interest in Stage 3.

The concerns expressed in this study require verification and further analysis through evaluation in a quantitative study. Such a study would require inclusion of a wide range of groups to ensure that the consumer concerns expressed in this study were accurately evaluated.

CHAPTER VI. SURVEY OF PROFESSIONAL PERSONS INVOLVED IN FOODS AND NUTRITION EDUCATION AND INFORMATION IN EDMONTON

1. Introduction.

Several agencies provide food and nutrition information to Edmonton consumers. Objectives and approaches to education differ between agencies, and foods and nutrition information is not the sole emphasis of all agencies. Accordingly, perceptions of consumers' main needs and concerns may vary. Awareness of these perspectives is important to evaluate general consumer concerns. In addition, the outline of programs offered by these agencies would allow assessment of the extent to which consumer needs are being met.

The object of this section of the study was to determine the extent of foods and nutrition information available to consumers in Edmonton, and to view consumer needs and concerns from the perspective of professionals providing information in response to consumer enquiries and requests.

2. Methods.

(a) Questionnaire.

Questions were generally open-ended, to obtain as much information and volunteered opinions from respondents as possible. Questions were designed to obtain information on:

(i) programs offered by the agency;

(ii) methods of communication with consumers;

(iii) professional respondents' perceptions of consumer needs, and changes in number and type of consumer requests in recent years;

(iv) general identity of consumers seeking information; and

(v) professionals' opinions of changes in amount and type of information and approach necessary to reach consumers.

(b) Description of Sample.

A total of 26 agencies were identified as providing foods and nutrition information to Edmonton consumers. The list of agencies and number of individuals interviewed in each is given in Table 1, (Chapter III, page 19). In total, 43 interviews were conducted.

(c) Interviewing.

The interviews were conducted informally, with answers noted by the interviewer as the survey progressed. One interview was completed through a mail questionnaire. Samples of consumer information provided by each agency were also collected if available.

3. Results.

(a) Programs offered by agencies.

Almost all agencies offer information pamphlets, and

professionals are available for talks and group presentations. Most answer consumer inquiries by letter or telephone. More extensive individual counselling is only available from a limited number of the agencies, such as the Family Service Association, the Canadian Diabetic Association, the Community Service Unit of Alberta Health and Social Development (Mental Health Division) and to some extent, from individuals within the Alberta Department of Agriculture's Extension Branch and Nutrition and Food Marketing Section.

Opportunity for radio and television information programs is available through Alberta Agriculture's Communications Branch and CFRN Television's Morning Magazine. Columns by journalists appear regularly in the daily newspaper, while community newsletters and newspapers are utilized both regularly and on an occasional basis by individual home economists and marketing officers.

Aspects of consumer education, including foods and nutrition, is available within courses from the Alberta Vocational Centre (limited to referrals from Canada Manpower) and Grant McEwan Community College (primarily for nursing students enrolled at the college.

In Alberta Agriculture, District Home Economists and Nutrition and Food Marketing Section Marketing Officers offer short courses and workshops for consumers. Other services provided by these agencies include provision of resource material for other professionals such as teachers, public health

nurses, and home economists; involvement in school lunch programs; and training of nutrition aides (Nutrition and Food Marketing Section) and home-makers (by the Family Service Association for the home-care service offered through Preventive Social Services).

Seventeen of the 26 agencies offer consumer information on other topics in addition to foods and nutrition. Emphasis on food and nutrition information appeared to vary between individuals within the organizations.

The aims of information programs, as expressed by individuals within the agencies, were varied. Information-giving was the aim of 12 programs. A further seven agencies sought to promote products through providing useful consumer information. Rehabilitation of individuals and prevention of family breakdown was the aim of two organizations. Increased consumer awareness, in order to motivate consumers to seek information, was specified by three organizations. Two agencies did not offer specific consumer information programs.

(b) Perceptions of Consumer Needs.

The general opinion of respondents was that only a small group of consumers considered information on foods and nutrition of importance. A number conceded that interest among consumers was increasing, but only 12 of the 43 respondents felt that most consumers presently consider this area of information important or feel a need for it.

Respondents generally agreed that the number and type of consumer requests has changed, primarily within the last one to two years. Respondents' opinions are summarized in Table 21. Reasons suggested for increased consumer interest were: increased food costs, influence of television and press in publicizing issues, wider government services and legislation available, the health food movement, and a greater interest in environment and health in general.

Respondents perceived a trend toward more specific, technical questions. A change from recipe-oriented food preparation questions to nutrition-oriented inquiries was noted. This was attributed to consumers being more "sophisticated" and "knowledgeable," and generally more activist.

The main types of questions asked by consumers are tabulated in Table 22. The importance of nutrition information may be overestimated relative to other questions, since nine of the agencies dealt primarily with foods and nutrition, and did not handle a broad range of questions. In addition, consumers with specific nutrition questions were frequently referred to these agencies. Agencies receiving a broad range of consumer questions, for example, the utility companies, estimated that consumer interest in nutrition was lower than this ranking would indicate. Requests for buying information from these agencies far exceeded requests for food and nutrition information, as did requests for specific food information (i.e. cooking and storage information). Respondents frequently commented that consumer

Table 21. Respondents' opinions on changes in the number and type of consumer requests for information.

(a) Distribution of responses in answer to: "Do you feel that the number of consumer requests for information has changed?

	Number of Respondents
Yes	32
No	4
Unable to judge	7

(b) Distribution of responses in answer to: "Do you feel the type of information sought by consumers has changed?"

	Number of Respondents
Yes	29
No	6
Unable to judge	8

Table 22. Main types of consumer questions received by agencies.

Type of questions received	Number of respondents
Nutrition information	15
Buying information (general)	13
Food prices	13
Food preparation (including recipes)	11
Food processing (safety and additives)	8
Diets (weight reduction)	7
Food storage and preservation	5
Budgeting (general)	5
Food safety	3
Government functions	
- where to complain	3
- legislation	2

questions did not necessarily reflect what they as professionals perceived as actual needs for information.

A given list of suggested consumer needs in foods and nutrition was ranked by respondents in order of relative importance. Other areas, not included in the original list, could be added by the respondent. The results of this ranking are summarized in Table 23. Categories could be ranked of equal importance, and this was frequently the case for nutriton education and food buying habits. The overall ranking placed needs for information in three groups: (i) nutrition education and food buying habits; (ii) food handling (cooking methods and proper storage); (iii) food legislation, food recipes, food marketing and distribution, and food processing, in that order, but with little difference between them in relative importance.

Nutrition and food buying habits generally ranked first in importance, as these areas were considered to represent immediate issues for the consumer, and are areas in which the consumer has direct personal responsibility. Food handling, with emphasis on retention of food quality and nutritive value, ranked second. Food legislation, marketing, and processing were viewed as areas of less immediate need for consumer information, because the information was considered less important in daily decisions and because consumers were less interested in these areas. Some respondents (4 or 5 for each factor in this last group) totally eliminated these factors from their rankings, on the basis that they were sufficiently unimportant to be rejected

Table 23. Summary of ranking of importance of consumer information needs.

Information Needs	Number of times rank applied							
	Ranking							
	-1	2	3	4	5	6	7	8
Nutrition education	28	7	7	0	1	0	0	0
Food buying habits	21	13	6	2	0	0	0	0
Food legislation	0	3	7	10	11	7	3	1
Food handling	7	16	14	4	1	6	0	0
Food recipes	4	6	1	9	2	5	11	2
Food marketing	0	1	4	8	11	14	1	0
Food processing	11	0	4	8	12	6	7	0
Other	4	1	2	0	1	0	1	5

	Overall rank	(Calculated weighted rank)	Number of respondents ranking category
Nutrition education	1*	(1.6)**	43
Food buying habits	2	(1.9)	42
Food legislation	4	(4.7)	42
Food handling	3	(2.3)	43
Food recipes	5	(4.9)	40
Food marketing	6	(5.2)	39
Food processing	7	(5.3)	38
Other	8		14

* order of importance

** value of rank calculated, based on total number of respondents (43) (Overall rank calculated as outlined in Chapter V, page 51).

from consideration, and because they believed that consumers were not yet at that level of technical information.

The importance of recipe information varied considerably. Some respondents considered recipes important due to the number of consumer requests, their use in teaching proper cooking and handling methods, or as a means of gaining consumer interest. Those ranking recipes as unimportant (i.e. below food marketing, processing and legislation) did so because recipes were readily available from other sources, or it was felt that recipes did not teach principles and were not used extensively even by consumers who requested them.

Respondents were able to add other areas of needs for information to the suggested list. Most additions, for example, "reasons for increased food costs" or "relationship between food and good health", fell within categories already on the list.

In response to the question of how they decided on the information to emphasize, it was reported that both consumer requests and the professional's own concepts of the area of need, guided the decisions. Both factors appeared to be of equal importance, though most professionals qualified the importance of consumer questions by stating that they used current concerns to create interest, then incorporated their own ideas.

Policy of the organization created only limited restraints on the programs. Only two groups were concerned about policy. For the remainder, it was possible to work within policy, or the policy was consistent with their own priorities for giving

consumer information. Almost all individual respondents surveyed had the responsibility of determining information content.

(c) Methods of Communication.

The frequency and range of methods of communicating with the consumer are shown in Table 24. Only a limited number (2 out of 26 organizations) appeared to actively advertise the availability of their service to consumers. Consumer awareness of these services therefore relied on word of mouth information, personal exposure of professionals involved (such as radio, television and newspaper columns), and referrals from other professionals. Only 4 organizations gave information with a cost to the consumer. Services for which a fee was levied were short courses, some larger publications, and membership in an organization such as the Consumers Association of Canada.

About half of the respondents noted that their organizations placed limits on bulk orders of pamphlets. Similarly, about half kept records of requests for information, either for annual reporting to their administration or for personal use and information.

There were generally no limits on who may receive information. However, services of some government employees were available only to consumers within a specific district, and some agencies such as the Alberta Vocational Centre and the Community Service Unit were limited to referrals from social agencies, Canada Manpower and medical personnel.

Table 24. Methods of distributing consumer information.

Method of distributing information	Number of individuals using each method
Mail	27
Radio + Television	25
Talks, presentations	20
Telephone inquiries	17
Other professionals	8
Press	7
Retail outlets	1
Other*	18

* including shopping displays, exhibition booths, newsletters, community health units, regular courses, commodity groups, individual counselling, schools.

(d) Groups of Consumers Requesting Information.

Only four organizations felt that they were reaching a broad range of consumers: Alberta Consumer Affairs via Box 1616, Family Service Association of Edmonton, Northwest Utilities, and the Communications Branch of Alberta Agriculture. However, five of the agencies surveyed are not intended to reach a broad range of consumers, but rather, specialized groups such as diabetics. The remaining seventeen agencies felt that their principal contact was with the middle and upper socioeconomic groups, even though their aim was to inform any consumer seeking information. Most talks and presentations were given to community groups such as church groups, YMCA, or Consumers Association of Canada.

In general, respondents felt they were not reaching low income consumers, particularly at the welfare level, consumers with lower education levels, working persons, elderly persons and ethnic groups. Some respondents expressed the opinion that consumers most in need of information were not receiving it.

(e) Changes Necessary to Improve Effectiveness of Services.

Reasons suggested by respondents for lack of communication with groups of consumers, noted above, included lack of awareness of services by these groups (9 respondents). However, the majority of respondents (30) considered the problem not just a case of consumers being unaware of their services. In general, it was considered that a new approach was needed, with more appealing materials and increased use of mass media. Need for

more personal contact at community meetings and small groups, and for more opportunity to provide one-to-one counselling was noted. The involvement of the medical profession, schools, and the food industry (all levels) was recognized as a need, but this was dependent on first educating these institutions to the need for food and nutrition information.

Some respondents also questioned the ability of themselves and other professionals to communicate with all levels of consumers, and cited greater skill in communication as a need.

Few agencies and individuals had regular contact with others, except on an informal social basis. The need for co-ordination of services and increased cooperation between individuals and agencies was cited by some respondents as a need for increased effectiveness. Cooperation in sharing material produced by other agencies was generally viewed as an advantage. Production of similar materials and services by different organizations was viewed as advantageous by some respondents (to reinforce the efforts of one another, or cover different aspects of the same topic), but as duplication of effort by others.

4. Discussion.

(a) Consumer Concerns and Needs for Information.

Two assessments of consumer concerns about foods and nutrition are available from this study as a whole, one from the survey of consumers and the second from the survey of

professionals in foods and nutrition. Concerns expressed may be compared between surveys, as well as between sections within each survey. The relative emphasis on concerns differed between stages of the consumer survey (Chapter V, page 58).

In the professional survey, there were two expressions of consumer needs: (i) based on consumer inquiries received by professionals; and (ii) based on professionals' assessments of consumer needs for information. A summary of the concerns expressed in each section of the two surveys is shown in Table 25. In sections where respondents ranked the concerns or needs for information, the rank order is shown. While some similarities exist between the various expressions of concern, many inconsistencies are apparent.

Questions received by professionals do not parallel the volunteered concerns in the consumer survey. Labelling, advertising, quality, ingredients in processed meats, packaging, and the desire to buy Canadian products are not reflected as concerns by consumer questions to the foods and nutrition professionals. In addition, consumer needs for general buying and budgeting information, and food preparation, handling, and storage information were not reflected as concerns about foods in the consumer survey. Consumer questions, while indicating areas of need for information, do not appear to reflect consumer concerns about foods in all respects.

Table 25. Summary of consumers and professionals expressions of concerns and needs in foods and nutrition.

	Consumer*				Professionals**		
	Stage 1	Stage 2	Stage 3	(rank)	A	B	(relative importance)
COST							
Prices	+	+	+	(1)	+		
Buying information	-	-	-		+	+	(1)
Budgeting	-	-	-		+		
NUTRITION							
Nutritive value	+	+	+	(1)	+	+	
Nutrition information	-	-	+		+	+	(1)
Reducing diets	-	-	-		+		
FOOD PROCESSING							
Processing	+	+	+	(4)	+	+	(3)
Additives	+	+	+	(7)	+		
Safety	+	+	-		-		
Ingredients	-	+	-		-		
QUALITY	+	-	+		-		
LEGISLATION							(3)
Labelling	+	-	+	(5)	-		
Advertising	+	+	+	(8)	-		
Food regulations	-	-	+	(3)	+		
Where to complain	-	-	-		+		
Canadian made	+	-	-		-		
FOOD HANDLING/STORAGE							
Food preparation (recipes)	-	-	-		+	+	(3)
Handling/ Storage	-	-	-		+	+	(2)
PACKAGING	+	+	+	(6)	-		
FOOD MARKETING	-	-	-		-	+	(3)

* Stage 1 - volunteered concerns
Stage 2 - volunteered concerns for selected food types
Stage 3 - ranking of selected concerns

** A - based on inquiries received by professionals
B - based on professionals' ranking of consumer needs for information: 1 of highest importance; 2 of lesser importance; 3 of little importance.

Food quality was an important concern expressed in Stages 1 and 2 of the consumer survey, but it was not an area of questioning reported by professionals. On the other hand, important volunteered concerns such as cost and nutrition were important areas for questioning of professionals. Quality to the consumer is a broad concept, including the in-store condition of meats and produce, and an evaluation of the eating quality of foods. As such, it represents a judgement of food quality in the marketplace, but is not an area of questioning directed to professionals. It appears to be distinct from quality-oriented questions that are asked as part of general buying information, or as information on food preparation and storage.

Food prices and nutrition were mentioned as concerns throughout both surveys. In those questions where respondents (both consumers and professionals) ranked a given set of concerns, these concerns were ranked first, and of equal importance. The questions received by professionals reflected the importance of these two factors to consumers, as indicated in all three stages of the consumer survey. However, professionals ranked food handling and storage as a second main area of need for information. This was not reflected in the consumer study and it appears that consumers do not perceive this area to be of appreciable concern.

(b) Groups of Consumers Requesting Information.

In the opinion of professionals, the major groups using their services are middle and upper socioeconomic groups. This

opinion coincides with the apparent lack of awareness and concern indicated by the lower income and education level respondents in the consumer survey. Most concern appeared to be expressed by middle and upper income and education respondents, and the greatest tendency to seek information appeared to be among the high income, high education respondents. Professionals also reported that the consumer is more "sophisticated" and "knowledgeable" than in previous years. While respondents of middle and high income and education appeared to be more aware of issues, a high level of knowledge about foods and nutrition was only indicated by a few respondents, both through discussion-oriented questions and through actual questioning on knowledge of food regulations. Confirmation of actual levels of knowledge, as opposed to "awareness" and "concern," is needed through quantitative study.

VII. CONCLUSIONS AND IMPLICATIONS FOR INFORMATION AND EDUCATION IN FOODS AND NUTRITION

1. Implications of the Study.

Tentative implications for presentation of consumer information and education may be drawn from this study. These implications are important for consideration not only by professionals responsible for consumer information programs, but also for the food industry's product development and promotion effort and food regulatory agencies.

There is an apparent need for the food industry to consider the consumer's image of both the industry and its food products. Food merchandising - retail food handling, product promotion through advertising, possible deceit of consumers through use of additives, advertising, or packaging - appear to be viewed negatively by a large proportion of consumers. Similarly, a large number of food products - those viewed as "processed" or convenience foods - appear subject to varying degrees of concern ranging from scepticism to alarm. Food industry's reaction to these problem areas has been largely a negative counterattack, although the need for a positive educational approach and evaluation of consumer concern has now been recognized. Within this positive approach, types of information to be emphasized should be based on identified concerns of consumers. Information on cost, quality, and nutritive value of foods would appear to be more effective for public relations purposes, than a more defensive approach of justifying the role of food additives and

processing, or nutrient fortification of processed foods. While nutritive value, rather than use of additives, appears to be the main concern in food processing, the effectiveness and method of fortification was questioned by some consumers in this study. Need for information in this area is indicated, but it appears that the food industry has a prior need to establish itself as an unbiased and concerned source of information. Involvement in consumer education on a broad basis may be an initial step. When consumers have ceased to question the motives of the food industry, valid honest presentation of information on nutritive value and processing, additives, and food merchandising may be incorporated. Merchandising changes, such as greater attention to dissatisfactions expressed with regard to packaging and labelling, as well as sound consumer information based on understanding of consumer needs, would decrease the apparent dissatisfaction and frustration of consumers.

Professionals involved in food and nutrition education expressed consensus that a different approach and type of information was needed to reach all consumers, particularly those with low income and low education level. The desire for increased use of mass media was expressed by all groups giving consumer-oriented information. The potential effectiveness of greater use of television, radio, and newspapers was apparent in the consumer survey, and adds emphasis to the professionals' views that present methods of reaching consumers are not efficient and, therefore, not succeeding. Few professionals however, stressed a need for point-of-purchase information at

the retail level, despite the number who indicated high demands from consumers for general buying and prices information. Concern for prices and quality was also indicated in the consumer survey, and a number indicated that they had sought information at the retail level.

Professionals were concerned that a major group of consumers needing information, that is, the low socioeconomic group, were not seeking or receiving it. Use of mass media for information dissemination, and involvement of more professionals to enable long-term individual contact were cited as needs to reach this group of consumers.

Involvement in consumer education to this extent would require a greater commitment to consumer education from government, industry, and educational institutions. A number of professionals stressed that increased cooperation among agencies is necessary to achieve a more effective, coordinated approach. The initiative of home economists' own organizations in leadership of such an approach was suggested, as well as expectations for leadership and coordination from government, particularly consumer affairs departments. Greater involvement of the food industry in education was also seen as a need. Difficulties in achieving coordination between government and industry are apparent in research indicating different views of causes and nature of consumerism (Gaedeke, 1970) and different definitions of key concepts (Bauer and Greyser, 1969). However, a wide involvement of all groups - industry and government, through efforts in public education and educational institutions

is needed to reach the full range of consumers. Further research on factors influencing consumers and consumer interpretation of these factors is necessary to provide a base for effective consumer information programs.

2. Limitations of the Study.

Qualitative research of this nature leads to formation of hypotheses, rather than verification of fact. At this stage, implications from the survey regarding needs for consumer educaiton cannot be generalized to the population as a whole nor to specific sociceconomic groups. Restrictions on drawing firm conclusions are due in part to the size of sample drawn and the method of sampling. Differences between socioeconomic groups, therefore, cannot be stated quantitatively, in terms of statistical significance. Further verification of these differences, as well as the relative importance of concerns within socioeconomic groups through quantitative study is required.

Conclusions drawn regarding the professional sample may require less verification, as representatives of practically all agencies involved were interviewed. However, qualitative interpretation of results rather than quantitative was followed.

Future research on the importance of foods and nutrition information relative to other areas of possible consumer concern, such as housing, budgeting, and household equipment, is necessary to evaluate priorities in a broad approach to consumer educatien.

REFERENCES

Aaker, David A. and George S. Day. 1970. A guide to consumerism. J. Marketing 34: 12-19.

Aaker, David A. and George S. Day. 1974. A guide to consumerism. In Consumerism: Search for the Consumer Interest (David A. Aaker and George S. Day, eds.), pp. xvii-xxviii. The Free Press, New York, N.Y.

Albrecht, James J. 1973. A corporate view of new product development. Food Tech. 27(4): 40-50.

Angeline, John F. and Gregory P. Leonardos. 1973. Food additives: some economic considerations. Food Tech. 27 (4): 40-50.

Anonymous. 1972. Consumers express opinions on vitamin fortification. Food Tech. 26(6): 24.

Babcock, M. J. 1971. A proposed system for nutrition labelling. Food Tech. 25: 1160-1161.

Baker, Susan T. 1972. What consumers and consumerists want. Food Tech, 26(4): 7.

Bauer, Raymond A. and Stephen S. Greyser. 1971. The dialogue that never happens. In Consumerism: Search for the Consumer Interest (David A. Aaker and George S. Day, eds.), pp. 59-73. The Free Press, New York, N.Y.

Bauman, Howard E. 1971. Nutrient labelling....purpose and approach. Who will set the guidelines - food faddists or food scientists? Food Tech. 25(6): 47-49.

Bishop, James and Henry W. Hubbard. 1969. Seller Beware. The National Press, Inc., Washington.

Bogart, Leo. 1972. The future of consumerism. J. Marketing 36 (3): 15.

Canadian Association for Adult Education. 1970. A Survey of Consumer Education in Canada. The Canadian Consumer Council, Box C, Ottawa, Ontario.

Canadian Consumer Council. 1972. Consumer Education for the Future. A Report to the Minister of Consumer and Corporate Affairs from the Canadian Consumer Council. Canadian Consumer Council, Box C, Ottawa, Ontario. May, 1972, p. 94.

Clausi, A. S. 1973. Improving the nutritional quality of food. Food Tech. 27(6): 36, 38, 40.

Collins, Leslie and Caroline Montgomery. 1970. Whatever happened to motivation research? J. Market Res. Soc. 12(1): 1-11.

Cook, C. W. 1964. Consumer confidence - major industry asset. Food Tech. 18(10): 66-68.

Ewanyk, L. J. 1972. Potatoes and potato products - Consumer opinions and retail practices. Thesis. School of Household Economics, University of Alberta, Edmonton, Alberta.

Foster, E. M. 1972. The need for science in food safety. Food Tech. 26(7): 81-87.

Friedman, Monroe. 1971. The 1966 consumer protest as seen by its leaders. J. Consumer Affairs 5(1): 1-23.

Frost, W. A. K. and R. L. Braine. 1967. The application of the repertory grid technique to problems in market research. Commentary: J. Market Res. Soc. 9(3): 161-175.

Gaedeke, Ralph M. 1972. The Muckraking Era. In Consumerism: Viewpoints from Business, Government, and the Public Interest (Ralph M. Gaedeke and Warren W. Etcheson, eds.), p. 57-59. Cornfield Press, San Francisco.

Gaedeke, Ralph M. 1970. What business, government, and consumer spokesmen think about consumerism. J. Consumer Affairs 4(1): 1-18.

Goldblatt, Phillip B., Mary E. Moore, and Albert J. Stunkard. 1965. Social factors in obesity. J.A.M.A. 192(12): 97 - 102.

Hall, Lloyd A. 1964. Chemicals: 25 years of progress. Food Tech. 18(9): 131-132.

Hall, Richard L. 1971. Information, confidence, and sanity in the food sciences. Food Tech. 25(8): 32, 34, 36-40.

Harker, Charlotte S. and Penelope E. Kupsinel. 1971. Nutrition education for today. J. Home Econ. 63(1): 15-18.

Herrmann, Robert O. 1974. The consumer movement in historical perspective. In Consumerism: Search for the Consumer Interest (David A. Aaker and George S. Day, eds.), pp. 10-18. The Free Press, New York, N.Y.

Kramer, Amihud. 1974. Storage retention of nutrients. Food Tech. 28(1): 50-56, 58, 60.

Kupfer, G. 1967. Edmonton Study Community Opportunity Assessment. Human Resources Research and Development Executive Council, Government of Alberta, Edmonton.

Lachance, Paul A., Ruth Brown Moskowitz and Henry H. Winaver. 1972. Balanced nutrition through food processor practice of nutrification. Food Tech. 26(6): 30-36.

Lund, D. B. 1973. Effects of heat processing. Food Tech. 27(1): 16-18.

Lunn, J. A. 1966. Psychological classification. Commentary: J. Market Res. Soc. 8(3): 161-173.

Lunn, J. A. 1969. Perspectives in attitude research: methods and applications. J. Market Res. Soc. 11(3): 201-213.

Marshall, W.E. 1974. Health foods, organic foods, natural foods. Food Tech. 28(2):50.

McFadyen, S. C. 1972. Consumer attitudes toward beef. Thesis. School of Household Economics. The University of Alberta, Edmonton, Alberta.

McFadyen, S. C., M. E. Stiles, R. T. Berg and M. H. Hawkins. 1972. Consumer attitudes toward beef - implications for the beef industry. Alberta Cattle Commission, Project Report. Calgary, Alberta.

McFadyen, S. C., M. E. Stiles, R. T. Berg and M. H. Hawkins. 1973. Factors influencing consumer acceptance of meats. Can. Inst. Food Sci. Technol. J. 6(4): 219-225.

Mehren, George L. 1971. What consumers say they want. Food Tech. 25(8): 33, 43-48.

Metzen, Edward J. 1967. Ratings of consumer competencies by young women and consumer education experts, and implications for consumer education. J. Consumer Affairs 1(1): 67-78.

Middlekauff, Roger, D. 1974. Legalities concerning food additives. Food Tech. 28(5): 42, 44, 46, 48.

Mrak, E. M. 1961. Food, history and problems. Food Tech. 15(9): 20-26.

Nesheim, Robert O. 1971. Industry response to the nutrition challenge. Food Tech. 25(6): 41-44.

Ontario Food Council. 1974. A Report on Four Group Interviews Concerning Nutrition Awareness and Education. Ontario Food Council, Ontario Ministry of Agriculture and Food, Toronto, Ontario, March, 1974.

Ossenberg, R.J. 1967. Calgary Study Community Opportunity Assessment. Human Resources Research and Development Executive Council, Government of Alberta, Edmonton.

Ratner, Cynthia. 1968. Educating the low income consumer. Some viewpoints from action program. J. Consumer Affairs 2 (2): 107-114.

Sampson, Peter M. J. 1967. Commonsense in qualitative research. Commentary: J. Market Res. Soc. 9(1): 30-38.

Statistics Canada. 1971. Census Tract Bulletin, 1971 Census of Canada. Statistics Canada, Cat. No. 95 - 757, Edmonton, Alberta (CT-27B).

Stewart, George F. 1962. The hand that feeds... Food Tech. 16 (1): 5.

Stewart, George F. 1964. Nutrition and the food technologist. Food Tech. 18(10): 9.

Stiles, M. E. and S. C. McFadyen. 1973a. Consumer opinions of meat quality. I. Outline of the study, with special reference to purchasing and consumption patterns of meats. Research Report. School of Household Economics, The University of Alberta and Nutrition and Food Marketing Section, Alberta Department of Agriculture, Edmonton, Alberta.

Stiles, M. E. and S. C. McFadyen. 1973b. Consumer opinions of meat quality. II. Consumer concerns about meats. Research Report. School of Household Economics, The University of Alberta and Nutrition and Food Marketing Section, Alberta Department of Agriculture, Edmonton, Alberta.

Stokes, Raymond C. 1972. The Consumer Research Institute's nutrient labelling research program. Food, Drug and Cosmetic Law J. May, 1972.

Warland, Rex H. and Robert O. Herrmann. 1971. The new wave of imitation foods - problems ahead? J. Consumer Affairs 5(1): 56-59.

Yohalem, Aaron S. 1971. Consumerism and corporate responsibility. Out of the laboratory and into the action. Food Tech. 25(4): 22-26.

APPENDIX A. Survey of Consumer Concerns Regarding Foods and Nutrition

No. .....

Cluster .....

1

Section A

1. First a very general question: Is there anything about food, or shopping today that causes you concern?
   Why do you feel this?
   How does it affect you in shopping or in choosing food?
   Are there any other things about food or food shopping that concern you?

2. Have you ever been dissatisfied with foods you have bought, or dissatisfied when shopping?
   What kind(s) of products?
   Why?
   Are you dissatisfied often?
   Are you dissatisfied with several kinds of products, or is it mainly one type?

3. Are there any foods you do not buy?
   What kinds?
   Why?

4. (a) How do you feel about trying out new food products? Do you generally try new products?
   (b) Do you notice new products in the grocery store when you are shopping? How about advertising of new foods?
   (c) How do you decide whether or not to buy a new product?

Section B

This section concerns your reactions to different types of foods. Here are several sets of cards. Each set of three cards is one group of foods.

Is there anything about this group that causes you concern?
Can you separate the foods on the basis of any concern/ or problem for you - that is, are you concerned about one but not about others?
And do the concerns differ between foods?

(a) What does it (factor mentioned) mean to you? How does it affect you in shopping or choosing food?

(b) Does the factor mentioned apply to <u>other</u> groups of food as well?

(c) Are there other things which concern you about foods?

(d) Would you regroup the products on the basis of any other factors?

fresh potatoes	frozen french fries	instant mashed potatoes
whole milk	canned evaporated milk	powdered milk
health bread	cracked wheat bread	white bread
catmeal	puffed wheat	cheerios
fresh meat (beef, pork, or poultry)	ham, bacon	sliced bologna canned luncheon meat
nuts	pretzels	potato chips
stewing beef	TV dinner	canned stew
fresh orange juice	canned orange juice	powdered orange juice

What do you think about frozen orange juice?

Section C

In this section, there is a list of subjects related to foods. Please say if you have <u>ever considered</u> each, and if it is important to you in shopping for food.

Some of the factors here may be of <u>assistance</u> to you in choosing foods, or you may find them problems. <u>Both</u> aspects of your opinion are important.

1. Labelling of foods.

2. Additives in foods.
   (preservatives to keep products fresh, or added flavour and colour).

3. Cost of foods.

4. Processing of foods.
   (nutrition - additives - cost - convenience)

5. Packaging of foods.

6. Nutrition in foods.

7. Advertising of foods.
   (TV - newspaper)
   (children - adult)

8. Food regulations.

1. The topics we have just mentioned are listed on these cards.
   Which of these factors do you consider most important?
   Can you order the cards as to their importance to you in buying foods?
   Begin with what concerns you the most.
   - labelling
   - additives
   - cost
   - processing
   - packaging
   - nutrition
   - advertising
   - food regulations

2. What do you feel would help to solve some of the concerns (information - gov't control)

3. Do you feel you need to know more about foods, or nutrition, or food shopping?
   What would be helpful?

Section D

This is the last section of the survey. It begins with a short set of statements. Please say if you agree, disagree, or if you have no opinion or don't know.

Do you think....	Yes	No	N/O D/K	Yes (Qualified) (think so)
1. meats are graded for quality according to government standards.	1	2	3	4
2. canned fruits and vegetables are graded for quality according to government standards.	1	2	3	4
3. government regulations control the kind and amount of additives in foods.	1	2	3	4
4. the contents of canned beef stew are printed on the label.	1	2	3	4
5. products that have vitamins or minerals added must state it on the label.	1	2	3	4

Now something about yourself:

1. Have you ever looked for information on food or nutrition? Where? (Read list after information volunteered)

( ) gas co.
( ) Edmcntcn power
( ) government department
( ) retail stores
( ) other:

2. Do you belong to any consumer organizations such as the Ccnsumers' Association of Canada?

3. Do you watch consumer programs such as Marketplace or Ombudsman on televisicn?
Take 30?
Morning Magazine?
Are you aware of them?

4. Have you ever read Consumer Reports?
What about newspaper columns such as Counterpoints (Nancy Clegg Buck) or SCS?

5. Are there any special dietary problems in your family?

6. Do you do most of the food buying for the family?

7. Does your family come from any ethnic background that would affect your food habits?
How about a rural or farm background? Does this affect your food habits or how you feel about food?

8. How many children do you have? What are their ages?

( ) None
( ) 0 - 2 years
( ) 3 - 6 years
( ) 7 -12 years
( )13 -18 years

9. What was your last age on your birthday? Just give the letter for the age group that matches.

A	under 25 years	E	46 - 55
B	26 - 30	F	56 - 65
C	31 - 35	G	over 65 years
D	36 - 45		

10. What is your occupation?
What is your husband's/wife's occupation?

11. What level of education did you and your husband last complete? Give the letter that fits.

Wife	Husband		
A		A	Less than high school
B		B	High schcol
C		C	Vocational/Technical
D		D	Apprenticeship
E		E	Some University
F		F	University degree or Diploma

12. What was your total family income last year? Just give the letter for the range that fits.

A	less than $3,000	F	11,000 - 12,999
B	3,000 - 4,999	G	13,000 - 14,999
C	5,000 - 6,999	H	15,000 - 16,999
D	7,000 - 8,999	I	over 17,000
E	9,000 - 10,999		

13. Sex

14. That completes the interview. Is there anything else you would like to add?

Comments by Interviewers:

cooperativeness of respondent?

involvement?

what extent of probing was necessary
- for positive aspects?
- for negative aspects?

any other present who may have affected responses?

APPENDIX B. Survey of Consumer Education in Foods and Nutrition in Edmonton

Name

Position Title

Organization

Address

Date

1. What programs or educational materials in foods and nutrition are available to the consumer through this organization?

   ( ) information pamphlets
   ( ) talks, group presentations
   ( ) answering individual inquiries via telephone and/or letter
   ( ) individual counselling eg. diet
   ( ) other

2. Is information also available in other areas of consumer needs? Which, if any?

3. What is the aim of your program of consumer information?

4. How important do you feel the consumer considers information on foods and nutrition? That is, do you think most consumers on their part actually perceive a need for food and nutrition information?

5. What do you feel are the consumers' main needs for information in the area of foods and nutrition? To help specify your priorities, can you rank these suggestions in order of importance. You may consider some items equally important, and may add others which you consider important to the list.
   ( ) nutrition education, such as balanced diets, sources of vitamins and minerals
   ( ) food buying habits (shopping practices, food budgeting)
   ( ) knowledge of food legislation
   ( ) food handling (cooking methods, proper storage)
   ( ) food recipes
   ( ) knowledge of food marketing and distribution
   ( ) knowledge of food processing
   ( ) other (specify)

   Can you provide reasons for ranking the list as you did?

6. How do you decide what kinds of information to emphasize?
   How would you rank those factors you have mentioned?
   ( ) ( ) consumer requests for information
   ( ) ( ) policy of organization, producer group, etc.
   ( ) ( ) discussion with other professionals
   ( ) ( ) own estimate of what kinds of information are necessary to be an adequately informed consumer
   ( ) ( ) other (specify)

7. Who makes the decision regarding the actual content of the information prepared for consumers?
   ( ) yourself, independently
   ( ) other, at your recommendation
   (specify)

8. Do you feel that the number of consumer requests for information has increased?
   IF YES: (a) When did this increase occur?
   ( ) In the last one to two years
   ( ) In the last five years
   (b) In your opinion, why are more consumers seeking information?

9. Do you feel the type of information sought by consumers has changed?
   IF YES: (a) When has the change occurred?
   ( ) In the last one to two years
   ( ) In the last five years
   (b) How do consumers' questions differ from those asked previously?

10. Can you specify what main types of questions consumers are asking?

11. How is your information distributed?

12. Is there a cost to the consumer for information?

13. Are there any limits on who may receive information, and limits on bulk orders of pamphlets?

14. Do you keep records of requests for information?

15. Do you advertise your services in any way? IF YES, how do you advertise? To whom is advertising directed? Are there other ways consumers become aware of your services?
    IF NOT, how do consumers become aware of the information or services available?

16. Can you identify any groups of consumers who use your information? Do you feel that there is any particular group or groups of consumers who would <u>not</u> approach you?
    Who?
    If yes: Do you feel that this segment of consumers would approach other agencies?

17. Considering the agencies involved in consumer education in the Edmontcn area, do you feel that the necessary information is reaching all consumers who need it?
Do you see any problem with the amount of information or personnel available? How about the <u>type</u> of information?
What changes do you feel could or should be made?

18. In the area of fcod and nutrition education, do you meet regularly with other agencies involved in the Edmcntcn area?
Who?
How often?
Is there overlap in use of materials between agencies? That is, do you use material prepared by others, or other professionals use material frcm your agency?

19. How lcng has your organization offered information services to consumers?
How many persons, including yourself, are involved?
How large a budget is at your disposal?

20. How long have you held your present position?
How long have you been involved in consumer education, here and in other positions?
What is your background or training?

21. Copies of publications available: